

SOME EXTINCT OR LOST AND REDISCOVERED  
PLANTS, II.

ASTRAGALUS LABRADORICUS, DC.

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This was first described as *Astragalus secundus* Michx. (Fl. Bor. Am. 2: 66. 1803). Michaux gives the following description:

"SECUNDUS: *A. caulescens, procumbens: spicis pedunculosis; leguminibus secundis, pendulis, nigricantibus.*

*Obs: Minutim pubescens, foliola ovalia; flores purpurascens: legumina recta, utrinque longiuscule acuminata.*

*Hab: in septentrionalibus Canadae.*"

Pursh in his Flora (p. 473, 1814) gave practically the same description, only recasting Michaux's words, and added the following distribution; "In the north of Canada, *Michaux*. Labrador, *Colmaster*."

As there was an older *Astragalus secundus*, DC., 1802 De Candolle (Prodr. 2: 473. 1825), changed the name to *Astragalus labradoricus*, copying Pursh's description almost verbatim.

Torrey and Gray in their Flora (1: 331. 1838) copied De Candolle's description, adding in a note below: "Legume about  $\frac{3}{4}$  of an inch long, clothed with blackish hairs, somewhat stipitate, half 2-celled. Cells 3-4-seeded." As they did not add anything to the distribution, it is evident that the species had not been collected in the meantime. In fact the plant has been lost for about one hundred years.

Amos Eaton included *A. secundus* in all the seven editions of his manual from 1817-1836, paraphrasing Pursh's description, without giving any additional matter, so also Eaton and Wright in their Botany of 1840.

Alfonso Wood omits it in both his Class Book and his Botanist and Florist, and so did Gray in his Manual, probably because they regarded it as extra-limital. It is also omitted in Britton's manual and in Britton and Brown's Illustrated Flora.

In his monograph of *Astragalus* (Proc. Am. Acad. 6: 205. 1863), Dr. Gray made *A. secundus* Michx. and *A. labradoricus* DC. synonyms of *A. alpinus* L. In this interpretation he was followed by Watson (see Bibl. Ind. 190. 1878). This seems to have settled the matter until lately.

Marcus E. Jones in his revision of *Astragalus* (p. 133, 1924) has taken up the name *A. labradoricus* and has given as synonyms *A. secundus* Michx., *A. Blakei* Eggleston, *A. Robbinsii* v. *Jesupi* Sheld., *A. Macounii* Rydberg. On the following page he referred to it as varieties *A. Robbinsii* Oakes and *A. Robbinsii* v. *occidentalis* S. Wats. On page 135, he added the statement that *A. Macounii* is a form intermediate between the latter and the true *A. labradoricus*. He gives no reason for such a conclusion and none of these forms fulfill the character given by Torrey and Gray who stated that the pod is "half 2-celled." Mr. Jones was in this case, as usually, very positive in his statement, even if he was merely guessing.

Somebody may ask: How could Torrey and Gray add the character given above, when the plant had not been collected since Michaux's and Kohlmeister's (Colmaster's) time? There are in the Torrey Herbarium two pods with the following label: "[*A. alpinus*!] *Astragalus secundus* Mx. *Labradoricus* DC. Herb. Mx."

In other words the pods are from the type in Michaux's herbarium in Paris. These pods are light-colored, with minute scattered appressed black hairs, straight on the upper suture, and tapering at each end more than in the typical *A. alpinus*. They are not like the pods of either *A. Blakei*, *A. Jesupi*, *A. Robbinsii*, or *A. Macounii* but belongs to the *A. alpinus* type. They can be matched by several on the type sheets of Fernald's *A. alpinus* v. *Brunetianus*, (*Fernald 24*). (See description in *Rhodora* 10: 51, 1908, or in Gray's New Manual, 516, 1908.) It may be added that sometimes the upper suture is even slightly turned upward. In the typical *A. alpinus* the two sutures are almost equally convexly curved. In *A. labradoricus* or *A. alpinus Brunetianus*, whichever name is preferred, the flowers are usually lighter-colored and the petals comparatively narrower than in the true *A. alpinus*.

Fernald states that it represents *A. giganteus* (Pall.) Sheldon. Sheldon may have included some specimens belonging to *A. labradoricus* in it, but it was based on *A. alpinus* v. *giganteus* Pallas of Siberia, which is probably related to *A. oroboides*. The Rocky Mountain specimens mentioned by Sheldon and also referred to in the Gray's New Manual do not belong to *A. labradoricus*, which is confined to northern New England and

eastern Canada. We have records of specimens from Labrador, eastern Quebec, Newfoundland, New Brunswick, Maine, New Hampshire, and Vermont.

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## DEMONSTRATION OF PROTOPLASMIC MOTION.

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Demonstration of protoplasmic motion is customary in classes in biology and elementary physiology. Satisfactory material however is not always to be found.

Living amoebae well show streaming motion of naked protoplasm but amoeba may not be available when desired. *Elodea* leaf-cells show evident rotation, large chloroplasts aiding the student to trace the motion. But active motion is often found in the middle of the leaf where underlying cell walls confuse the student as to the true course of the motion. Or, we may use *Trianea* root-hairs for protoplasmic circulation, but *Trianea* seems difficult to grow in city water. Staminal hairs of *Tradescantia* are of course available only when the plant blooms.

In our elementary classes we have found a dependable and satisfactory object for demonstration in the pollen tubes of *Vinca rosea* L. *V. rosea oculata* is equally useful. The plant grows readily from cuttings, requires no special conditions and only ordinary care which may be given in a small greenhouse. It is in bloom constantly; one is always sure of securing pollen. This pollen is germinated in a hanging drop of 10% sugar solution. Usually within two hours tubes long enough for study are formed; active streaming motion is readily seen within the thin pollen tube wall.

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## NOTE ON FAGUS ANTIPOFII

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Having just acquired a copy of the work by H. Abich, Beiträge zur Paläontologie des Asiatischen Russlands (1858), I have been